REMARKS

Attached hereto is an amended FIG. 3 that shows correction in blue ink to a spelling mistake in block 110.

Applicants submit formal drawings that overcome objections raised by the draftsperson and correct the spelling mistake shown in the attached FIG. 3.

The Examiner rejected claims 1-27 as obvious (35 U.S.C. §103) over Le (U.S. Patent No. 6,272,605) in view of Frank (U.S. Patent No. 5,251,308). Applicants traverse these rejections for the following reasons.

Claims 1, 10, and 19 concern accessing a data set from one of two storage devices, each including a copy of the data set. These claims require: maintaining a flag for each storage device indicating whether a previous access attempt of the data set from the storage device failed; selecting the storage device having the flag indicating that no previous access attempt failed if the flag for the other storage device indicates that one previous access attempt of the data set from the storage device failed; and accessing the data set from the selected storage device.

The Examiner found that col. 2, line 60 to col. 3, line 28 of Le teaches the claim requirement of maintaining a flag for each storage device indicating whether a previous access attempt of the data set from the storage device failed. (Office Action, pg. 2). Applicants traverse.

The cited cols. 2-3 nowhere suggests a flag for each of two storage devices indicating whether a previous attempt of a data set from the storage devices failed. Instead, the cited cols. 2-3 mention that initially a storage device is allocated to a first host to process recall requests and that a second host recall request is initiated with a second host system. If the storage device is allocated to the first host system, then the second host stores priority data indicating priority of the second host recall request and retries the request at a later time. The first host may then release the device before processing all recall requests.

Nowhere in this cited cols. 2-3 is there any teaching or suggestion of maintaining a flag with each of the two storage devices indicating whether a previous access attempt of a data set failed. Instead, the cited Le only mentions indicating a priority of a recall request to a single

storage device if the storage device is not available for the recall request. Thus, the cited cols. 2-3 do not teach the first claim requirement.

The Examiner cited col. 6, lines 20-37, col. 8, lines 46-60, and the Abstract of Le as teaching the claim requirement of selecting the storage device having the flag indicating that no previous access attempt failed if the flag for the other storage device indicates that one previous access attempt of the data set from the storage device failed. (Office Action, pg. 2). Applicants traverse.

The cited col. 6, lines 20-37 mentions an inventory record that indicates a highest priority recall entry from hosts attempting to access a storage device while another host is performing recalls to the tape, including the ID of the host currently accessing the tape, and a field indicating the operation being performed. Nowhere does this cited col. 6 anywhere teach or suggest selecting one storage device having a flag indicating that no previous access attempt failed if the flag for the other device indicates a failure. Instead, the cited col. 6 only mentions that if a storage device is already being accessed, then the host attempting access places the priority of the attempted recall request in a data structure.

The cited col. 8, lines 46-60 mentions that a requesting host may insert into a record the time of a failed recall request if the priority of the recall request is greater than the priority already indicated. The Abstract further mentions that the first host system releases the storage device before processing all recall requests if the priority in the inventory record, or data structure, is lower than the request priority. Again, nowhere is there any suggestion in the cited col. 8 and Abstract of selecting a storage device having a flag indicating that no previous attempt failed if the other storage device indicates that one previous access attempt failed. Nowhere does the cited Le anywhere mention checking flags indicating whether attempts failed for two different storage devices as claimed.

The Examiner recognized that Le does not explicitly teach the selection of storing, and cited col. 3, lines 2-27 and col. 10, lines 55-67 of Frank as teaching the selection requirement of the claims. (Office Action, pgs. 2-3) Applicants traverse.

The cited col. 3, lines 2-27 of Frank discusses how two units may request access to a selected data element. A memory management element can signal the units that both can access, but in other access modes only one processing unit may be allowed access. The cited col. 10, lines 55-67 of Frank discusses determining whether a cache has all descriptors for a set, and to determine whether a descriptor indicates whether sets in cache are for a desired page.

Nowhere does the cited Frank anywhere teach or suggest selecting a storage device having a flag indicating that no previous access attempt failed if the flag for other storage device indicates that one previous access attempt failed. In fact, Frank nowhere suggests considering one of two different storage devices to select, but instead concerns how to control access from two different processing units trying to access the same data.

Moreover, applicants submit that the cited Le and Frank nowhere suggest nor are concerned with the claim requirements of selecting one of two storage devices to use to access data, but are instead concerned with how to manage two different processes attempting to access the same data, not selecting one of two different storage devices to use to access the data as claimed. This point further emphasizes the shortcomings of the cited Le and Frank with respect to independent claims 1, 10, and 19.

Accordingly, claims 1, 10, and 19 are patentable over the cited combination of Le and Frank because the cited Le does not teach the first two limitations for which it was cited nor does the cited Frank teach or suggest the third limitation of selecting one of two storage devices based upon a flag maintained for both storage devices indicating whether previous access attempts failed. Thus, even if the references may be combined, they still do not teach or suggest all the claim requirements.

Claims 2-9, 11-18, and 20-27 are patentable over the combination of Le and Frank because they depend from claims 1, 10, and 19, which are patentable over the cited art for the reasons discussed above, and because they add requirements that in combination with the base and intervening claims from which they depend, further distinguish over the cited combination. Moreover, claims 2, 4-9, 11, 13-18, 20, and 22-27 provide additional grounds of patentability over the cited art.

Claims 2, 11, and 20 depend from claims 1, 10, and 19, respectively, and further require using a selection criteria to access one of the first and second storage devices that is unrelated to a value of the flag if the flags for both storage devices have the same value. The Examiner cited col. 6, lines 1-13 of Le as teaching the additional requirement of these claims. (Office Action, pg. 3). Applicants traverse.

The cited col. 6 mentions that priority may be based on the source of the request. This section further mentions that the priority value and time stamp fields may only be checked if the wait flag for compared data structures are the same.

The claims require using a selection criteria unrelated to flags indicating a failure if both storage device flags indicating a failed access attempt are the same. The cited Le mentions checking different values if a wait flag is the same. However, the claims only check different unrelated values if flags indicating a failed access attempt at both the devices are the same. The cited wait flag of Le is defined as a flag indicating whether the application originating the data request needs the data to proceed. (Le, col. 5, lines 50-53) Thus, the wait flag of Le nowhere suggests the claimed flag indicating a failed access attempt.

Accordingly, claims 2, 11, and 20 provide additional grounds of patentability over the cited art because the cited combination does not teach or suggest the additional claim requirements alone or in combination with base and any intervening claims.

Claims 4, 13, and 22 depend from claims 1, 10, and 19 and further require that a flag is maintained for each data set in the first and second storage devices and wherein the first and second storage devices have the same data sets. The Examiner cited col. 2, lines 60-67 of Le as teaching the additional requirements of these claims. (Office Action, pg. 3). Applicants traverse.

The cited col. 2 mentions that a storage device is initially allocated to a first host to process recall requests, and that a second host recall request is initiated with a second host to recall data from the storage device. Nowhere in this cited section is there any suggestion of a flag for each data set in the first and second storage devices and that the storage devices have the same data sets. In fact, the cited Le only concerns mentions accessing one storage device by multiple hosts, not selecting one of two storage devices having the same data sets as claimed.

Accordingly, claims 4, 13, and 22 provide additional grounds of patentability over the cited art because the cited combination does not teach or suggest the additional claim requirements alone or in combination with base and any intervening claims.

Claims 5, 14, and 23 depend from claims 1, 10, and 19 and further require: accessing the data set from one of a third and fourth storage devices if the data set is in one of the third and fourth storage devices, wherein the steps of selecting one of the first and second storage devices and accessing the data from one of the first and second storage devices occurs if the data set is not in one of the third and fourth storage devices; copying the data set from the first storage device to the third storage device when accessing the data set from the first storage device; and copying the data set from the second storage device to the fourth storage device when accessing the data set from the first storage device.

The Examiner cited col. 4, line 6 to col. 5, line 17 of Le as teaching the additional requirements of claims 5, 14, and 23. (Office Action, pg. 3). Applicants traverse.

The cited cols. 4-5 discusses two hosts and a primary and secondary storage devices, and that data is transferred between the hosts and between the primary and secondary storages, or DASDs. This cited section further mentions that the primary and secondary storage may include a storage subsystem.

Nowhere does the cited cols. 4-5 anywhere suggest or even mention accessing the data from third and fourth storage devices if the data is there, and that the first and second storage devices are selected if the data set is not in the third or fourth storage devices.

Accordingly, claims 5, 14, and 23 provide additional grounds of patentability over the cited art because the cited combination does not teach or suggest the additional claim requirements alone or in combination with base and any intervening claims.

With respect to claims 6, 15, and 24, the Examiner cited col. 4, line 6 to col. 5, line 17 as teaching the claim requirement of recalling the data set from the third storage device if the scheduled write operation has not yet copied the requested data set to the first storage device, wherein the steps of selecting one of the first and second storage devices to access the data set

and accessing the data set occurs if the scheduled write operation of the data set to the first storage device completed. (Office Action, pg.3) Applicants traverse.

The cited cols. 4 and 5 discusses two hosts and a primary and secondary storage devices, and that data is transferred between the hosts and between the primary and secondary storages, or DASDs. This cited section further mentions that the primary and secondary storage may include a storage subsystem.

Nowhere do the cited cols. 4 and 5 anywhere suggest that the flag indicates whether a recall attempt failed, and recalling a data set from the third storage device if a scheduled write operation has not yet copied the requested data to the first storage device. Instead, the cited col. 5 discusses a wait flag indicating whether an application needs the recalled data to proceed. Further, nowhere do the cited cols. 4 and 5 suggest selecting one of the first and second storage devices if the scheduled write operation completed.

Accordingly, claims 6, 15, and 24 provide additional grounds of patentability over the cited art because the cited combination does not teach or suggest the additional claim requirements alone or in combination with base and any intervening claims.

Claims 7-9, 16-18, and 15-27 are patentable over the cited art because they depend directly or indirectly from claims 5, 14, and 23 and for the additional limitations these claims add, which in combination with the requirements of the base and intervening claims provide still further grounds of patentability over the cited art.
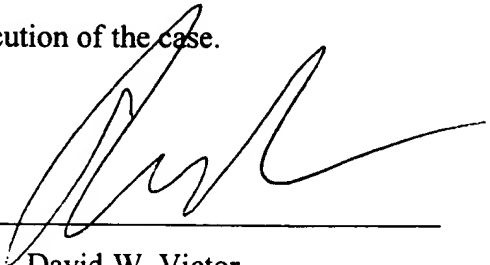
Conclusion

For all the above reasons, Applicant submits that the pending claims 1-27 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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By:_____

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